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ORIGINAL ARTICLE

Microfinance as a tool for financing medical devices in Syria. An assessment of needs and a call for further research

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Abstract
Background Microfinance is a generally accepted tool for improving the economic situation of the poor in developing countries. However, it has hardly been used to finance medical devices required by the disabled, although the incapability of these groups to buy wheelchairs and other equipment is a major source of poverty.
Aim This paper analyzes the need for microfinance as a tool for financing wheelchairs for patients suffering from a walking disability and oxygen concentrators for patients with chronic lung diseases. It is not in the scope of this study to present a comprehensive concept of implementing a microfinance instrument, but the paper intends to demonstrate that the disabled in Syria perceive a great need for such a financing tool. In addition, this paper wants to encourage microfinance institutions to go beyond their traditional field of business and start lending to the disabled so that they can buy the equipment necessary to live a productive life of higher quality.
Methodology Two groups of disabled patients in Syria were asked about their social and economic situation as well as their access to financing tools. The first sample consisted of patients suffering from a walking disability with major constraints concerning their mobility and who are in need of a wheelchair (N=100). The second sample consisted of patients with chronic lung diseases (N=90) and with a need of additional oxygen. All participants lived below the national poverty line.
Results Eighty-two percent of the interviewees suffering from a walking disability and 78% of the interviewees with chronic lung diseases were not health-insured. Although there was some knowledge of microfinance among the interviewees, they reported having limited or no access to such programs. Seventy-two percent of the patients with a walking disability and 68% of the patients with chronic lung diseases knew what microfinance is, but the portion of borrowers was 24% of the examined patients with a walking disability and 22% of the patients with chronic lung diseases. Ninety percent of the patients with a walking disability and 73% of the patients with a chronic lung disease are convinced that they could generate income if they could only buy a wheelchair or an oxygen concentrator. The majority, i.e., 89% of the patients with a walking disability and 95% of the patients with a chronic lung disease, believed that microfinance would be an ideal tool for them to finance these devices and that they or their family could pay back the installments.
Conclusion Microfinance has not been used as a tool for financing medical devices in Syria. However, this study shows that the disabled of this country perceive a great need for this innovative system. The majority of the disabled believe that they could gain some income and pay back the loan if they had the necessary equipment. This is a basic prerequisite for further steps to start microfinance for this group of potential clients. However, a start-up would need some support, e.g., by the government of Syria. It is likely that the financing of medical devices by microfinance can also be used for other groups of patients and needy persons in Syria as well as in comparable countries, but this statement calls for further research.

Keywords Disability · Medical devices · Microfinance · Poverty · Syria

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Introduction

Current research has stressed that there is a strong interrelation between poverty and illness (WHO 2001; European Commission 2005). A population with lower economic resources will also not be able to provide for sufficient health care so that a society with a low income has a tendency to have poorer health (Moeller et al. 2004; Flessa 2007). At the same time, the poor state of health of a population leads to a lower labor productivity of the population and—ceteris paribus—a lower national product (Moeller et al. 2003). This general statement is in particular true for people with a disability requiring a medical device: the poor cannot afford these devices, and the absence of this equipment will prevent them from earning income. Thus, the disability causes poverty, and the poverty increases their disability. There is an urgent need to interrupt the vicious circle of poverty and disability, in particular in developing countries.

In this paper we will focus on the situation in Syria and analyze whether microfinance can be a tool to institutionalize this change. Syria was chosen because it is the mother country of the first author and because it is a country with major health care challenges. Although the quantity of health care services has steadily increased, the supply has not been able to follow the increase of the demand. This can be partly attributed to the high rate of population growth experienced during the last decades. The average population growth rate was estimated at 2.6% p.a. between 1994 and 2004 (WHO 2006). In addition, a major part of the population lacks the financial resources to pay for health care services that are not included in the basic package provided by the government—and this package is very constricted. Oxygen concentrators, for instance, are not included in the social coverage and have to be financed by the respective patients or their families on their own. Some wheelchairs are offered by social welfare institutions, but not in sufficient numbers.

The number of poor people in Syria was estimated at 5.3 million in the year 2003/04 (30.1% of the total population), out of which 2 million people (11.4% of the total population) were utterly poor (El Laithy et al. 2005). According to the Central Bureau of Statistics, 113,734 people with a disability lived in the Syrian Arabian Republic in 2004, with 36.6% of the people suffering from a walking disability, making up the largest portion of the total population of disabled people (Central Bureau of Statistics 2004). Likewise, lung diseases have a considerable public health impact in Syria and contribute to about 5.6% of all death cases (Ministry of Health 2005a). The number of patients suffering from lung diseases was estimated, according to the Syrian Health Ministry, at 55,011 patients in 2005. According to this estimate, 7,444 patients could be treated with artificial respiration at home if oxygen concentrators were available (Ministry of Health 2005b).

Consequently, a large number of the disabled in Syria are poor and likely to remain poor as their disability does not allow them to work and earn an income. Rather simple devices such as a wheelchair or a basic oxygen concentrator would be sufficient to bring them back to work, but most people cannot afford these devices, and the governmental health services do not provide this equipment. There is an urgent need to support these disabled people and to break the vicious cycle of poverty and disability. This paper suggests that microfinance might be such a tool. To investigate this claim, a study was done to determine the perceptions of the patients with a walking disability and the patients with a chronic lung disease.

Establishing microfinance as a tool to finance medical devices will be a long and complex process, including studies on ability to pay, institutional and legal frameworks and pre-tests in certain parts of the country. This study lays the foundation by analyzing the perceived needs of the potential beneficiaries of such a financing tool. This is definitely not sufficient for making a decision to start such a program, but it is the prerequisite to continue research and call for pre-test funding. Without a perceived need of such a tool, no further investment would make sense.

Consequently, the second section describes the evolution of microfinance and its traditional field of business. The third section presents the methodology of the study. It is followed by the Results section showing the perception of needs and related aspects stated by two sample groups of disabled patients in Syria. The discussion and the conclusion sections use these results and call for more research in order to investigate whether the perceived needs of the disabled can be met by professional and sustainable financing services.

The evolution of an innovation: microfinance

In many countries the poor have no access to loans as commercial banks do not trust that they will pay back the interest and do not bother lending out small amounts (BMZ 2004). In 1976 Muhammad Yunus had the idea that small-scale loans to the poor in Bangladesh could interrupt the vicious cycle of poverty (Yunus and Jolis 1998). He did not require material security, but instutionalized some kind of group pressure to secure that the loan would be paid back. He started the microfinance (MF) system now known as the Grameen bank (Bernasek and Stanfield 1997; Getubig et al. 1993). This innovation was adopted and has been adapted in many countries, mainly in the developing world, and has meanwhile become a state-of-the-art instrument in the fight for empowering the poor and building up entrepreneurship

(Morduch 1999; Getubig et al. 1993). Its ability to reduce poverty by giving small-scale loans to the poor so that they can open a business of their own has been proven myriad times since then (Felder-Kuzu 2005).

Although microfinance has been a financing instrument for the poor in other Arab countries (e.g., Farruk and Riad 2004), it was not until the year 1997 that microfinance was introduced in Syria. In the last decade, the Syrian government has made considerable progress in creating a climate that promotes the growth of microfinance. This progress was especially supported by the enactment of the General Microfinance Decree (CGAP 2008). Decree no. 15 from 15 February 2007 grants the establishment of social financial banking institutions that are aimed at offering finance services for households with low incomes. The decree enables the already existing programs as well as other organizations to establish microfinance institutions (The Syrian Arab Republic 2007). In addition, there are also international initiatives to strengthen microfinance in Syria. For instance, the German Development Bank (KfW) has provided some €2 million as capital for establishing the first microfinance institution in Syria (MFI) (KfW Entwicklungsbank 2008). Most of the existing microfinance programs in Syria are aimed at rural development, because most poor people and 52% of the population live in rural areas (Galdo 2004). These programs are aimed at fighting poverty by the creation of workplaces. However, until now they have been completely restricted to the traditional field of business, e.g., providing small-scale loans for starting or enlarging small-scale businesses. Loans for purchasing medical devices are not included in the business spectrum of microfinance in Syria.

Methods

Patients who suffer from a walking disability and patients with a chronic lung disease are the two most frequent groups of disabled in Syria. It is estimated that some 41,627 people fall into the first group and some 7,444 into the second (Central Bureau of Statistics 2004; Ministry of Health 2005b). However, no official statistics are available about a number of the poor in both groups. One hundred people were selected from the first and 90 from the second group to take part in this study. In this investigation, income was considered a selection criterion of the poor. The UNDP study of the year 2003–2004 served as a basis for determining the poor in both groups. According to the UNDP classification, a person in Syria is classified as extremely poor if he spends less than $US 2.18 per day ($US 65 per month, $US 796 per year) and as poor if he spends less than $US 3.07 per day ($US 92 per month, $US 1,121 per year) (El Laithy et al. 2005).

We invested effort to avoid participants from the upper class in order to gain insights into the health situation of disabled patients living below the poverty line. Within this category, the participants were randomly selected.

For each group a questionnaire was developed that could be filled out within 10 or 15 min. We used only closed answer possibilities in order to allow a quantitative analysis and shorten the duration of answering. For most questions, the participants could indicate the degree of their consent or refusal on a one-dimensional rating scale of 1 to 5, i.e., the answer possibilities for the items were: 1, completely agree; 2, agree; 3, agree somewhat; 4, disagree; 5, completely disagree.

As some of the participants were illiterate and some lived in quite remote areas, the questionnaires could not just be handed over and collected again. Instead, the investigation was partly conducted by telephone and personal interviews. However, in all cases the questionnaire was properly filled out.

The survey took place in September/October 2007. First, social welfare institutions were contacted by telephone. In this way, patients suffering from a walking disability were motivated to participate in the survey. The survey was not limited to participants who were members of the social welfare institutions, because a large number of the disabled people living below the poverty line are not associated with these institutions. Therefore, some of the survey participants were personally contacted in their place of residence. Forty-five questionnaires were filled out in written form, 35 questionnaires were completed by personal contact, and 20 questionnaires were filled out through telephone conversations. Out of 200 questionnaires sent to people with a physical disability, 45 questionnaires were returned. Thus, a response rate of 22.5% was reached. A total of 100 questionnaires were evaluated in this analysis.

In the same period we informed several state hospitals in the selected governorates by sending out letters about this survey. In this way, the patients with chronic lung diseases requiring additional oxygen were motivated to participate in the survey. The three different questioning forms (writing, telephone, face-to-face) were also used in this analysis. Thirty questionnaires were completed by personal contact, 25 questionnaires were filled out by telephone interviews, and 35 questionnaires were filled out in writing. From 150 questionnaires sent to people with chronic lung diseases, 35 questionnaires were returned. This corresponds to a response rate of 23.3%. A total of 90 questionnaires were evaluated in this analysis.

The questionnaires of this analysis consisted of four different sets of questions: general information, income situation, health care and microfinance. For the statistical analysis, SPSS version 11 was used.

Results

This section presents the results of the analysis of the questionnaires. Firstly, a brief overview of the two examined samples (patients suffering from a walking disability; patients with chronic lung diseases) is given. Secondly, some results concerning income, health care and microfinance are presented.

Samples description

The first sample group, patients suffering from a walking disability, consisted of 100 test persons. The average age was 43.29 years with a range between 20 and 84 years. All of them needed a wheelchair, i.e., 34% could move without it only for short distances and 66% were completely immobile without it. Sixty-two percent of the participants indicated that their handicap was increasingly problematic, for 32% it was increasingly manageable, and 6% declared that they saw no change. Forty-three percent of the participants indicated that they were disabled because of illness, 24% from birth, 21% because of accidents and 11% because of their age.

The second sample group, patients with chronic lung diseases, consisted of 90 persons. The average age was 43.84 years with a range of 22 to 80 years. Most of the participants, 71.1%, suffered from chronic obstructive pulmonary disease (COPD), 5.6% from pulmonary emphysema, 3.3% from problems associated with their condition after a lung operation, 2.2% from problems associated with their condition after radiation exposure, 15.6% from pulmonary fibrosis and 2.2% from other diseases like lung cancer. All of them needed an oxygen supply, but no one owned an oxygen concentrator. They received the necessary oxygen in the hospital. Eighty-five percent of them indicated that their state of health could be improved by receiving the necessary oxygen with the help of an oxygen concentrator and that they then would be able to do physical work.

Income situation

As Table 1 shows, the vast majority of the participants in both samples had no income of their own, but survived through the support of their relatives. Some older participants received a small pension, and some could work. However, even the wage income was very limited due to their disability. Consequently, the majority (74.5% of the patients suffering from a walking disability and 70% patients with chronic lung diseases) stated that they were not able to cover their basic needs (rent, food, clothes and health) because of their low income.

The average monthly gross incomes of the participants in the two samples are shown in Fig. 1. As stated before, the national poverty lines are US$ 65 (extreme poverty) and US$ 92 (poverty).

As Fig. 1 shows, most of the disabled people are poor, i.e., their monthly income is less than US$ 92. Merely 1% are not poor according to Syrian standards. Furthermore, the majority of the patients with chronic lung diseases are poor. Only 3.33% of the questioned lung patients are not poor according to Syrian standards, but even their monthly average income only amounts to US$ 123.

As expected, the available income and the necessary financial help according to the self-assessment of the participants are negatively correlated ($\rho=-0.552$; $P\leq 0.01$ for patients suffering from a walking disability, $\rho=-0.644$, $P\leq 0.001$ for patients with chronic lung diseases). It seems that the disabled are quite aware of their income situation and perceive their limited ability to earn their living as problematic.

Health care

The majority of the the patients suffering from a walking disability (81%) did not need to stay in the hospital despite their physical disability. But all patients with chronic lung diseases declared that staying in the hospital was necessary. According to the questioned patients with chronic lung diseases, the annual length of stay in a hospital was between 10 and 180 days, with an average of 58.12 days.

Figure 2 represents the yearly average duration of hospital stays for patients with chronic lung diseases.

The costs of medical devices constitute a major problem for the disabled in Syria. In this investigation, 58% of the participants in the first sample (patients suffering from a walking disability) did not have access to a wheelchair, although they urgently needed it in order to lead productive lives and integrate themselves into society. The only reason for this was that they could not afford a wheelchair. This piece of equipment costs about US$ 350 in Syria—too much for them.

Table 1 Sources of income

	Wage	Pension	Support of organization	Support of relatives	Other source of income
Patients suffering from a walking disability	17%	14%	10%	58%	1%
Patients with chronic lung diseases	30%	11.2%	2.2%	54%	2.6%

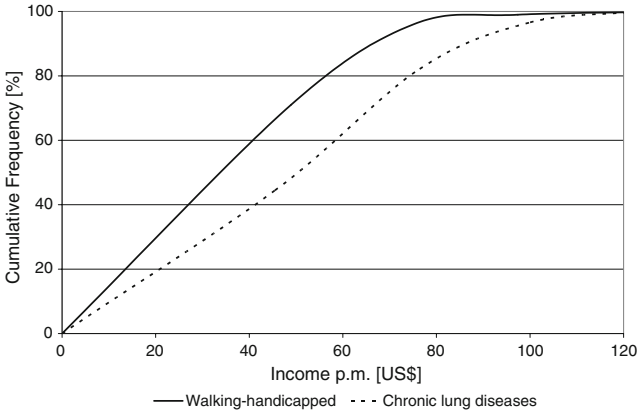

Fig. 1 Average monthly gross income for disabled with walking handicaps

For patients with chronic lung diseases, the situation is even worse: All patients expect that they could strongly improve their quality of life and their ability to participate in social activities by an investment in an oxygen concentrator. This equipment costs about US$ 450 in Syria and would allow them to stay or even work at home. They would need hospital admissions less frequently and stay for a shorter time in these institutions. They would require less attendance by their relatives at home. However, 97.8% of the interviewed patients declared that they were not able to buy a respirator without financial help.

Some participants had other support. Eighteen percent of the participants in the first sample (patients suffering from a walking disability) and 22% in the second sample (patients with chronic lung diseases) had a form of health insurance. However, all health-insured participants in the two samples indicated that the treatment costs in private hospitals, drugs and in particular the costs of medical devices were not or at least not fully covered by their health insurance. In addition, only some participants (20%) benefit from the social welfare institutions that already exist in Syria.

As expected, there is a positive correlation between the available income and the expenditure for a wheelchair ($\rho = 0.616$, $P \leq 0.001$). We included only people in the survey that were already expected to be poor. But even among the poor, the poorest are less likely to have a wheelchair. The same is true for the patients with chronic lung diseases.

Microfinance

According to the answers of the participants, to date microfinance does not play a role in financing of medical devices in Syria. Of the patients, 24.4% suffering from a walking disability and 22% with chronic lung diseases had ever been in contact with a microfinance institution. However, they had not received credit for medical devices, but for "normal" activities in the traditional field of business in microfinance institutions, such as financing the start-up of a grocery store. Of those who had been given a loan, 90% of the patients suffering from a walking disability and 73% of the patients with chronic lung diseases declared that they had generated income through direct investment in the microfinancing loans. It could be shown that the income of the participants and their positive experience with microfinance institutions are positively correlated ($\rho = 0.78$ respectively $\rho = 0.56$).

Of the examined patients, 97.6% suffering from a walking disability and 92% with lung diseases did not see that microfinancing might be a tool for financing their medical devices. Seventy-three percent of the patients suffering from a walking disability and 71% of the patients with chronic lung diseases agreed with the statement that microfinance programs are mainly designed for creating jobs. Eighty percent of the people in the first sample and 63.6% in the second sample indicated that the people who were not able to work because of their disability or illness had no access to financial services as the microfinance institutions fear that they will not be able to repay their loans.

However, the majority of the participants in the survey indicated that they would finance their medical devices if they had the financial resources at their disposal. Eighty-nine percent of the patients suffering from a walking disability and 95% of the patients with chronic lung diseases said that they had a great need for microfinancing to finance their wheelchairs and oxygen concentrators. It can be shown that the higher the perceived need for microfinance is, the higher the perceived need for the medical device ($\rho = 0.33$, $P \leq 0.001$; 0.47, $P \leq 0.001$).

For the microfinance programs it is essential that the applicants can pay back their loans. In this analysis possible ways of repayment were shown if the microfinance programs would provide credits for financing of medical devices in Syria. One possibility of credit repayment is for the recipient to become self-employed. It is assumed that

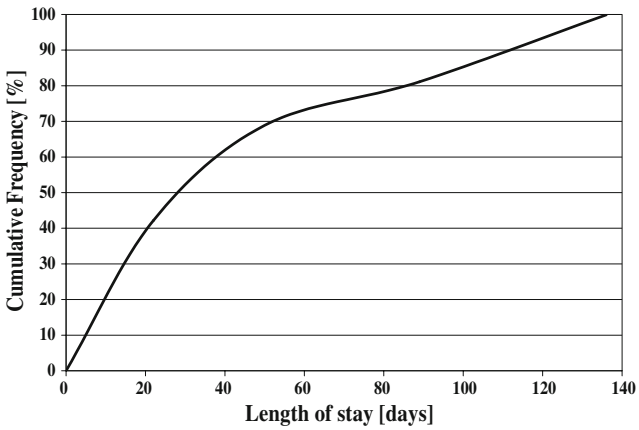

Fig. 2 Yearly average duration of hospital stays for patients with chronic lung diseases

after the acquisition of the necessary medical devices, the credit user will be able to start up his or her own business. With the realized profit the credits can be repaid. The results of the investigation show that a large number of the patients suffering from a walking disability (68.7%) completely agreed that they could conduct small independent projects with a small loan despite their physical disability if they possessed a wheelchair. For the patients with chronic lung diseases, 30% of the interviewees completely agreed that after receiving a small loan they saw a possibility to find work that would enabled them to guarantee the repayment of the credit. Sixteen percent of patients suffering from a walking disability and 24.4% of the patients with chronic lung diseases indicated that they were not able to do any work because of their serious disability or illness.

In addition, the family plays a crucial role in the repayment of credits. Frequently, the borrower cannot guarantee the repayment himself as he has no property as collateral. In these cases the (extended) family can accept liability for paying back the loan. According to the statements of the patients suffering from a walking disability, 72% of the Syrian families were willing to guarantee the credit repayment. Nine percent of the participants were uncertain whether their families could ensure the repayment, and 19% indicated that their families could not guarantee the repayment. According to the statements of the patients with chronic lung diseases, 76.4% of the families could guarantee the repayment of the credits and were willing to do so, 6.7% of the participants were uncertain whether their families could guarantee the repayment, and 16.6% indicated that their families were not capable to finance further expenses because of their low incomes.

Discussion

In this section we will compare our results with other studies. In some cases, no comparable research has been done in Arabic countries so that we have to refer to studies from industrialized countries. We are aware that any comparison between Syria and industrialized countries must be made with great caution as the analogy is limited.

Income situation

Both sample groups strongly indicated that their low income could not cover their basic needs and that social welfare institutions played a very limited role for them. This has also been shown for other countries. For instance, a study carried out in Yemen pointed out that the three specialist safety nets serving disabled people, including the Social Welfare Fund (SWF, providing financial assistance to the needy including disabled people), the Social Fund for Development (SFD, a capacity-building organization) and the Fund for the Welfare of Disabled (DF, Disability Fund), played a minor role besides the existing programs in the support of the deserving poor for those with disabilities. The reason for this is that all safety nets suffer from their budgetary limitations, including their dependency on conditional foreign funding (Turmusani 2006).

Health care

Patients with chronic lung diseases have to be admitted frequently to hospitals because they have no oxygen concentrators. The inpatient stay is linked with economic costs that are paid by the state hospitals. Generally, there is a dearth of knowledge about hospital costs in Syria. Consequently, we have to base the following statements on one single study about unit costs in the Department of Internal Medicine of the National Hospital in Dara'a (Dara'a National Hospital 2005). The full cost per patient day includes direct costs, such as drugs and consumables, apportioned direct labor of physicians, nurses and paramedicals, as well as allotted overheads (e.g., for administration, depreciation etc.). The study concludes that the full cost per patient day is €47.78.

Consequently, reducing the length of stay in hospitals by providing oxygen concentrators for patients with chronic lung diseases requiring additional oxygen can have a significant impact on the total costs of illnesses. Seeing that these patients have to spend between 15 and 120 days in the hospital, tremendous savings could be achieved by a rather simple device. This result is in line with other studies. For example, the study of Tuggey et al. in Great Britain identified a significant cost benefit for the acute hospital in the provision of a home non-invasive ventilation (NIV) service for a selected group of patients with recurrent admissions for acidotic exacerbations of CODP. The cost saving is achieved by both a reduction in hospital admission rates and length of stay (Tuggey et al. 2003). Consequently, giving patients with chronic lung diseases access to oxygen concentrators might be a worthwhile investment on a national level.

The investigation shows that health insurance plays only a minor role in the coverage of the health care costs of poor people as only a very small number have health insurance, and there is no complete health insurance. The poor who have health insurance therefore must pay the costs of the doctor's office visit. Nevertheless, the costs of drugs and medical devices are partially covered by the health insurance. The poor cannot count on health insurance for the financing of their required medical devices. In the corresponding countries, health insurance plays no signif-

icant role in the financing of health costs. A study carried out in Morocco shows that health insurance plays a minor role, and it covers only 16% of the entire population (Boutayeb 2006). Thus, it will be difficult for poor people to finance their medical devices.

Another important result of this investigation refers to patients suffering from a walking disability. The social welfare institutions offer many possibilities for these patients, like, for example, free health care and wheelchairs. But the necessary wheelchairs are offered in insufficient numbers and in insufficient quality. This result agrees with other results of studies conducted in developing countries. For example, a study that was conducted in Morocco arrived at the conclusion that more than 50% of the needy Moroccans only have very restricted access to organizations and institutions for disabled people (Lorenzkowski 2000).

It was also determined that, due to their low income, the interviewed disabled persons could not buy wheelchairs and that the financial means spent by the public health care system were not sufficient to support these people, so that for the acquisition of a wheelchair, further financial support was essential. This result also applies to other parts of the Arab world. A study that was conducted in Chad proved that the mobility of patients suffering from a walking disability is a significant precondition for participating actively in life (Durgueil 2001).

Microfinance

Our study demonstrates that patients who had received a small loan had significantly higher incomes. This result is congruent with findings of a study conducted in Bangladesh about the impact of microfinance institutions (MFIs) on households, consumption and welfare. The study comes to the conclusion that the MFIs have raised the income and consumption levels of households in Bangladesh, reduced income inequality and improved the welfare system. The study shows that the provision of microfinancial services has increased the income of all types of households, especially the incomes of the rural poor by 73%. In addition, the consumption of all goods has increased by more than 50% (Mahjabeen 2008).

Most of the microfinance programs in Syria do not concentrate on the improvement of the state of health of the participants. In many developing countries, microfinance programs only grant credit for income-generating activities of the borrowers. However, the generation of income through credit leads to the improvement of the state of health of the participants in the microfinance programs. This corresponds to the result of a study conducted in India. It investigated the correlation between the participation of women in a microfinance program and the health of the women in the South Indian State of Kerala. Microfinance can be considered as an effective risk alleviation strategy, because it prevents women from being excluded from health care or falling into high debt or impoverishment because of the financial burden of an illness (Mohindra et al. 2008).

However, our survey demonstrates that people who are prevented from working because they cannot afford a medical device have no access to the financial services offered on the market. Traditional banking services are not accessible to the poor, and microfinance organizations fear that these people cannot pay back their credits. Little research has been done in this field. One study from Zambia and Zimbabwe showed that women with disabilities are perceived by microfinance organizations as high risk; therefore, they are refused credits by banks, microlenders and peer lending groups. It is assumed that women with disabilities are not appropriate for microfinance or business services and are better served by rehabilitation programs and charities. Thus, people with disabilities are not empowered to work for their own development, but are forced to rely on acts of mercy (Lewis 2004).

Our study shows that so far no credits have been given directly for health purposes, for example, for the financing of medical devices. Nevertheless, the interviewees stated clearly that they see a great need for microfinance in Syria and that they or their relatives would be able to pay back loans for medical devices. To our knowledge, there is no other research on this topic in the Arab countries. However, microfinance is frequently connected with a kind of health insurance. For instance, the Banco Mundial de la Mujer (Argentinia, BMM) provides a health card for every borrower of a small loan so that BMM clients have access to health services. BMM pays the health care companies US$ 1.70 monthly per client. This means that the client only pays a third of the costs for a doctor's visit (Lashley 2008). However, it is not known whether medical devices such as wheelchairs and oxygen concentrators are covered.

Microfinance will not solve all problems for the borrowers. For instance, the purchasing price of a piece of equipment might be only one element of the total cost: In Syria the price of an oxygen concentrator ranges between €500 and €5,000, but the cost of power consumption, consumables and transport costs can exceed the cost of the device, in particular in some remote areas. Thus, providing a credit for the purchase of the equipment only makes sense if the borrower will be able to gain income that not only allows him to pay back the loan, but also to maintain the equipment.

The credit allocation to such a patient with a chronic lung disease requiring additional oxygen is not free of danger. First, it might be that the patient cannot find employment or start his own business even after receiving this equipment. Second, patients with chronic lung diseases

have a higher mortality rate so that the borrower might pass away before repaying the credit. For disabled people requiring a wheelchair, both risks are lower, but still exist. Consequently, microfinance organizations hesitate to give out loans to these groups.

Our study shows that the majority of the disabled expect that they will be able to gain employment or start their own business if they have the necessary medical device so that they can make a profit to repay the loan. To our knowledge, no other research has invested effort in this self assessment. However, we could not determine whether this statement is just "wishful thinking" or based on facts. Therefore, we cannot state that this is indeed true. We can only demonstrate that the majority of these two target groups would be strongly interested in this new field of microfinance.

Conclusion

The Syrian government has taken important steps in the field of public health, but in the absence of social health insurance a large number of poor people whose income is insufficient cannot overcome their health problems. This study shows that patients suffering from a walking disability and patients with chronic lung diseases perceive their personal situation as quite miserable and have a great need for improvement of their quality of life. At the same time they are convinced that microfinance could be an important tool for them to earn their own living.

It is obvious that these statements are opinion-based, i.e., they reflect the perception of the potential beneficiaries. However, the process of adopting an innovation always begins with the assessment of the need for it (Ritter 1991). If the disabled do not see any need for a new financing tool, further steps to implement it would be in vain. Consequently, this analysis is a prerequisite for all further steps.

However, this study merely suggests that there is a strong interest in such a financing system and that the potential borrowers have confidence that they could pay back the loans. Further studies are essential to prove whether these perceptions are true. Consequently, this paper calls for more research in order to analyze the ability to pay back the loans, the legal and institutional framework and the long-term sustainability of such a system. Only a broad and well-financed proto-project in a certain part of the country can answer the question whether microfinance can be successful as a tool to finance medical devices for the disabled. Investing in such a limited project would be worthwhile as the disabled of Syria perceive a great need for it.

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Conflict of Interest The authors disclose any relevant associations that might pose a conflict of interest.

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